

# 11<sup>th</sup> International EME Conference, Trenton N.J. August 8<sup>th</sup> 2004

## Forum on EME Procedures and Practices

The forum was attended by about 40% of the 75 who registered for the conference, the topics discussed were displayed on the web site and on Moon-net and two additional topics were received. In this report, the topic question is reproduced followed by a summary of the discussion and actions agreed.

1. How to Increase Activity... What can we do to increase the regular EME activity? There is no doubt that it has fallen off in the last few years especially on 432 and 1296 MHz. Should we change the criteria used to select "activity weekends" with more regard to "sociable hours" and less regard to lowest path loss (perigee)? What is the best role for digital modes as a method for increasing activity and for developing station capability? Can we make use of the presence of "Big Guns" on these bands to increase activity?

There was a wide-ranging debate on this issue; there does not seem to be one, or even a few, key reasons for why we are seeing a drop in activity especially above 432 MHz. In fact, one might single out 432 MHz as the band where the effect is worst. Digital modes have boosted 2 m activity and the availability of solid-state power devices and >3 m dishes have increased 1296 activity to an extent. The present non-concurrence of high declination, moon perigee and sufficient sun separation means that the Activity Weekend (AW) does not stand out as the weekend to be on the air! There was a general feeling that we need to get a better wider and earlier awareness across the EME community of the dates that are chosen as the AW. Several ways of doing this were proposed: Current methods are The 432 and above News Letter, QST, RSGB Bulletin, DUBUS; New methods suggested are Add the information on the date to the monthly email shot which announces the issuing of the 432 and above NL. This goes to a very wide list. Add moon-net to this list so that the information is posted there simultaneously.

There was a strong call for a website on which intended and planned activity, skeds etc, can be advertised. This area of the site should be segmented by band so that people can easily find out what is likely to be happening. It was pointed out that the W6/PA0ZN site already includes some of this capability. There was also a call, particularly from EME newcomers, for a section on the site, again segmented by band, which would answer the question "How do I get going on xxx MHz EME?" and also have an FAQ section. This should not discourage stations from putting skeds, planned activity up on moon-net. Some people have trouble with spam and unwanted messages but there are ways around (my own ISP strips off 95% of the spam). AI, K2UYH, undertook to look at how the existing capability might be enlarged to include this.

On the question of slanting the choice of AW to try to favor those weekends, which had hours that are more "sociable" rather than seeking perigee and other favorable moon conditions, the feeling was that we should try this in the next AW selection that is made. This is normally published in the December NL with a request for comments... Please participate in this process next time.

Use of Digital modes: It was noted that there had been an increase in 2 m EME activity specifically due to JT65 operation, but there was no consensus view as to whether or not stations that entered EME operation with the help of JT65 capability subsequently increased their station capability and added CW as an option. With the decrease in CW as a license requirement JT65 offers a route to EME for non-CW operators.

The presence of "Big Gun" stations on 432 and 1296 can be of most use if they advertise in advance when they are likely to be on the air by one or several of the methods discussed earlier. An issue concerning EME contests was also discussed at this point. Dom, HB9BBD, proposed that instead of beginning the contest at a set time worldwide, 0000 hrs for example, it should start at the local moon rise of the station concerned and that the contest duration should last for one moon pass rather than two as at present, with the second pass being used for another band. Adverse weather is an obvious factor against this proposal, but it was felt that it deserved wider debate in the community.

2. Galileo - Galileo is a satellite based positioning system, similar to GPS, being built under already committed EC funding and intended to be operational in about 2008. As well as using the current GPS allocations on a compatible basis, it also

uses spectrum from 1260 - 1300 MHz. This appears to lead to the possibility of interference both to the user equipments from amateur operations and from the satellites to sensitive receiving systems such as EME operation.

Peter, G3LTF, explained the outline of the problem. Interference to EME operation could result in ~ 14 dB increase in noise in 500 Hz as one of the satellites passed through the beam of a 6 m dish. The effect would be 30 dB worse for a 0.5 MHz noise-measuring receiver. Interference to the ground based receivers is not easy to estimate as the precise nature of the signal processing used is unknown, but it could be significant. Marc, N2UO, suggested that weak signal operation could be move to a null in the spectrum, which appears to be at 1300 MHz. Everyone was encouraged to try to find out whether their national societies were active in confronting this problem, which will affect all operations on 1296 MHz, not just EME.

3. Activity on the 13 to 3 cm bands - How can we increase activity on the higher bands, specifically 13, 9, 6 and 3 cm? Separate activity weekends, sun-moon separation is less important on these bands? More publicity for current activity? Better availability of information on how to operate cross band? How do we live with the increasing level of commercial QRM on these bands?

Unfortunately, there were only a few representatives of operation on these bands at the forum, but it is clear that we need more publicity for what goes on in terms of skeds and activity arranged outside the AW. (For solution, see 1. above) Some publication of methods to build cross band operating systems for 13 cm would be helpful; JA4BLC has recently built a 3-band single LO transverter. The presence of 2.4GHz "new technology" systems in the US makes the possibility of a common frequency in the 2424 MHz region totally impracticable and so we are stuck with cross band operation. The separate contest weekend for these bands, Oct 30-31<sup>st</sup> was welcomed.

4. Polarization standards above 13 cm - Polarization standards above 13cm...are they a help or a hindrance?

Zdenek, OK1DFC has presented a paper at the conference with designs up to 3 cm, the view of the forum was that with this solution to the problem there was no real reason not to adhere to the circular polarization standard.

5. Standings - How should the "standings" be configured to reflect the emergence of digital modes on EME?

All agreed that there should not be separate tables for digital and non-digital modes and that we should avoid divisions. The proposal was made that a similar scheme to that used by the ARRL for VHF standings should be adopted which is that if a stations total includes states or grids worked by EME then the total has an asterisk beside it. There was vigorous debate on this topic but on a show of hands, the proposal was agreed and AI, K2UYH, undertook to speak to HB9CRQ who maintains the 432 MHz and above standings to implement it.

6. EME Hall of Fame:

AI, K2UYH, spoke of the great contribution made to EME techniques by Peter, OE9XXI, who passed away in June this year and is greatly missed by the EME community. He proposed that we should set up an EME Hall of Fame (on the web page of W6/PA0ZN) to recognize highly significant contributions and achievements in the field of EME and that Peter, OE9XXI, should be the first elected. This proposal received unanimous support. AI further proposed that a committee be set up to propose rules for selection and to subsequently nominate up to 5 additional members to be confirmed at the next EME conference in 2006. The committee members proposed were KL6M (who, being present, volunteered as chair) DL9KR, JA4BLC, VK3UM, HB9BBD and VK3UM. Mike, KL6M, will progress this proposal.

7. Next Conference Venue:

Dave, DL4MUP, on behalf of Rainer DF6NA, gave a presentation describing the attractions of Wurtsburg, Germany as

the 2006 venue. Everyone was impressed, especially by the descriptions of the beers, and the proposal was accepted with unanimous acclaim. The Chairman complimented DL4MUP on his excellent command of English! [Dave is originally from the UK].

Peter Blair, G3LTF & Al Katz, K2UYH